

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks. Claims 1-6 have been amended. No new matter has been introduced with the claim amendments. Independent claims 1, 5 and 6 are currently pending.

Rejection under 35 U.S.C. §112, Second Paragraph

The Official Action rejected claims 1-6 under 35 U.S.C. §112, second paragraph for various reasons. Claim 1 has been amended without narrowing the claim scope to define that the innermost layer is located closer to the container interior than the outermost layer when the material is formed into a container. This language does not narrow the claim scope as it merely makes explicit that which was implicit in the original claim language defining the innermost layer. Also, claims 1-6 have been amended without narrowing the claim scope to delete the terms "narrow" and laminated, and to include the units associated with certain claim parameters.

Regarding independent claim 5 and the phrase "for paper containers", the Applicants respectfully submit that claim 5 does not include this language. The Official Action also indicated that the phrases "a discontinuous section" and "between two edges" lacked antecedent basis. However, the Applicants submit that claim 5 properly introduces these elements. If the Applicants have not fully understood the Examiner's concerns on these points, the Examiner is kindly asked to contact the undersigned to facilitate resolution of this matter. In light of the foregoing, the Applicants respectfully submit that, as

amended, claims 1-6 overcome the rejections under 35 U.S.C. §112, second paragraph, and respectfully requests that the rejection be withdrawn.

Rejection under 35 U.S.C. §103(a)

The Official Action also rejected claims 1-4 and 6 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,536,542 to *Gillespie et al.* (the '542 patent). Independent claim 1 claims a packaging material having at least a thermoplastic material outermost layer and a paper substrate layer. Independent claim 1 also claims the packaging material having a barrier layer and a thermoplastic material innermost layer. The thermoplastic material innermost layer contains at least a linear low density polyethylene having an average density of 0.900 g/mL - 0.915 g/mL and a peak melting point of 88°C to 103°C. The thermoplastic material innermost layer also possesses a melt flow index of 5 dg/min to 20 dg/min and a swelling ratio of 1.4 - 1.6.

The '542 patent discloses a method of sealing two extrusion coated polyethylene laminate surfaces together. The '542 patent discloses the use of polyethylene having a melt index of 1 dg/min to 4 dg/min at 190°C. The '542 patent explicitly states that polyethylene having a melt index above 4 dg/min or below 1 dg/min would not permit the polyethylene to be extrusion coatable. The polyethylene described in the '542 patent has an annealed density of 0.92 g/cc to 0.93 g/cc. The '542 patent states that the annealed density of the polyethylene should not be lower than 0.92 g/cc because polyethylene having a density below 0.92 g/cc exhibits high coefficient of friction which cause processing

problems during carton converting operations. The '542 patent also describes that the disclosed polyethylene has a swell ratio of 1.2 to 1.3. The '542 patent indicates that a swell ratio above 1.3 is not desirable because a polyethylene having this characteristic is not extrusion coatable.

As required in Chapter 2143.03 of the MPEP, to "establish *prima facie* obviousness of the claimed invention, all the claim limitations must be taught or suggested by the prior art." The Applicants submit that the '542 patent does not disclose each and every element claimed in independent claim 1. For example, the '542 patent does not disclose a packaging material comprised of a thermoplastic material outermost layer, a paper substrate layer, a barrier layer and a thermoplastic material innermost layer in that order. The discussion in column 4, lines 25-37 of the '542 patent regarding possible substrates does not describe using the disclosed extrusion coated polyethylene with the combination of a paper substrate layer and a barrier layer. Rather, that portion of the disclosure in the '542 patent identifies substrates in the alternative. In other words, the '542 patent discusses applying the disclosed extrusion coated polyethylene to either paper or a polyethylene-vinyl alcohol copolymer (or other listed substrates), but does not describe applying the extrusion coated polyethylene to a structure comprised of both paper and polyethylene-vinyl alcohol copolymer. There is thus no disclosure of a packaging material comprised of a thermoplastic layer, a paper substrate layer, a barrier layer and a thermoplastic material inner layer in that order.

Furthermore, the Applicants respectfully submit that the invention recited in independent claim 1 would not have been obvious in view of the '542 patent. The '542 patent discloses a method of sealing two extrusion coated polyethylene laminate surfaces together. The '542 patent indicates that a number of the ranges set forth in independent claim 1 are undesirable for heat sealing an extrusion coated polyethylene. More specifically, independent claim 1 recites that the thermoplastic innermost layer has an average density of 0.900 g/mL to 0.915 g/mL. The '542 patent explicitly states that the disclosed polyethylene should not have an annealed density lower than 0.92 g/cc because polyethylenes having a density below 0.922 g/cc exhibit high coefficients of friction which cause processing problems during carton converting operations. See column 3, lines 16-19. Thus, the disclosure in the '542 patent would have actually directed one away from employing a thermoplastic layer having a density of 0.900 g/mL - 0.915 g/mL.

Independent claim 1 also defines that the thermoplastic inner layer has a melt flow index between 5 dg/min and 20 dg/min. The '542 patent specifically discloses that a polyethylene having a melt index above 4 dg/min is undesirable because it prevents the polyethylene from being extrusion coatable. See column 2, lines 64-67. Considering that at least part of the focus of the disclosure in the '542 patent is to provide an extrusion coated polyethylene, it can hardly be said that it would have been obvious to employ a parameter (*i.e.*, a melt index greater than 4 dg/min) which the '542 patent itself acknowledges would not allow the polyethylene to be extrusion coated.

In addition, as previously discussed, independent claim 1 recites that the thermoplastic material innermost layer has a swelling ratio of 1.4 - 1.6. The discussion at the top of column three of the '542 patent clearly states that a swelling ratio above 1.3 is not desirable because it does not permit extrusion coating. Thus, once again, using a polyethylene having a swelling ratio along the lines recited in claim 1 would be inconsistent with the objective stated in the '542 patent of providing an extrusion coated polyethylene.

The Official Action also rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over the '542 patent. Independent claim 6 claims a paper packaging container formed from a packaging material which comprises at least an outside thermoplastic material layer, a paper substrate layer and an inside thermoplastic material layer. The inside thermoplastic material layer contains at least a linear low density polyethylene having a melt flow index of 5 dg/min - 15 dg/min and a swelling ratio of 1.45 - 1.55. As previously discussed with reference to independent claim 1, the '542 patent discloses that a polyethylene having a melt index above 4 dg/min should not be used because it would not permit the polyethylene to be extrusion coatable. In addition, the '542 patent explicitly states that a swelling ratio above 1.3 is not desirable.

The Official Action indicates that the density, the melt index and the swelling ratio would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. As discussed earlier, the '542 patent describes a method of joining two extrusion coated polyethylene laminate surfaces. Moreover, the '542 patent explicitly states that the claimed values for certain of the

properties in independent claims 1 and 6, such as the melt index and the swell ratio, are not desirable, thereby dissuading one skilled in the art from using the values claimed in independent claims 1 and 6. For at least these reasons, the Applicants respectfully submit that independent claims 1 and 6 are nonobvious and patentable over the '542 patent and respectfully request that the rejection be withdrawn. Dependent claims 2-4, which depend from independent claim 1, are also patentable for the reasons discussed above with respect to independent claim 1 and for the additional novel features they recite.

The Official Action also rejected independent claim 5 under 35 U.S.C. § 103(a) as being unpatentable over the '542 patent in view of U.S. Patent No. 5,732,825 to *Ikenoya et al.* (the '825 patent). Independent claim 5 claims a paper packaging container having at least a thermoplastic material outermost layer, a paper substrate layer, a barrier layer and a thermoplastic material innermost layer. Independent claim 5 also recites a strip tape covering a discontinuous section of the innermost layer. The claim recites that the strip tape has a sealing surface layer comprising a linear low density polyethylene having an average density of 0.900 g/mL and 0.915 g/mL. The polyethylene of the sealing surface layer of the strip tape also has a melt flow index of 5 dg/min and 20 dg/min and a swelling ratio of 1.4 - 1.6.

The '825 patent discloses a packaging container having enhanced sealing performance. The packaging container includes a packaging material, an outside strip and a strip tape 25. The strip tape 25 adheres to an inner surface of a packaging container along a longitudinal sealing portion. The strip tape 25 prevents entry of air into the

packaging container from a side edge of the packing material. The strip tape 25 also prevents permeation of a paper substrate 13 by liquid food.

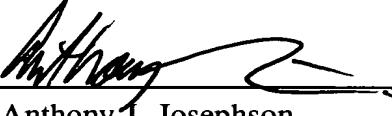
The Applicants respectfully submit that even if one were to somehow motivated to combine the disclosures of the '542 patent and the '825 patent, the result would not be that which is recited in claim 5. Namely, independent claim 5 claims a **strip tape** including at least a sealing-surface layer having a linear low density polyethylene. The linear low density polyethylene of the sealing-surface layer of the strip tape has an average density of 0.900 g/mL and 0.915 g/mL and a melt flow index of 5 dg/min to 20 dg/min. Neither the '542 patent nor the '825 patent, either singularly or in combination, discloses a strip tape with a sealing-surface layer containing a linear low density polyethylene having an average density of 0.900 g/mL and 0.915 g/mL, and a melt flow index of 5 dg/min to 20 dg/min. Addressing these claimed aspects of the invention, the Official Action refers to the discussion in the '542 patent describing parameters such as the melt flow index and average density. However, these parameters pertain to the extrusion coated polyethylene used on the **package** -- to does not pertain to polyethylene used in **strip tape** as claimed. For at least this reason, the Applicants respectfully submit that independent claim 5 is patentable over the '542 patent in view of the '825 patent under 35 U.S.C. § 103(a) and respectfully request that the rejection be withdrawn.

CONCLUSION

Further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, the undersigned requests that he be contacted at the number indicated below so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 
Anthony J. Josephson
Registration No. 45,742

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: June 12, 2003